Ambassador Berry's Remarks for the
Innovation Roundtable
Swinburne University of Technology

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Vice Chancellor Kristjanson, thank you so much for that warm welcome! We are so delighted to be here and grateful to the Swinburne University of Technology for hosting us today!

Federal Minister for Small Business Bruce Billson, we are honored that you could take time out of your busy schedule to be with us, as we expand U.S.-Australia collaboration on innovation -- a topic I know each of us holds close to our hearts.

And I'd also like to acknowledge the President of our American Chamber of Commerce in Australia, Maureen Dougherty, who is taking a break from the Avalon Air Show to be with us this morning.

Business and university representatives, federal and state government officials, and -- most importantly -- all of the students, thank you for being here today.

Innovation lies at the very heart of the United States' identity. From the beginning, our country was a grand experiment. We believed then – and now – that freedom plus sweat equals progress. And if you add creativity or innovation, you get progress squared.

One of our greatest presidents, Abraham Lincoln, was not just a tremendous leader but an innovator as well. In 1849, he was granted patent number 6,469 for a device that would lift boats stuck on sandbars.

He liked to call the U.S. patent system one of the greatest human achievements to spur invention, because it added the "fuel of interest to the fire of genius."

Lincoln was fascinated by new technology. Before his presidency, he lectured on "discoveries and inventions." While serving as a member of Congress, he liked to take his son to the patent office to see the models on display. He approved the construction of the USS Monitor – the United States' first armored gunboat.

As president, he pioneered the use of the telegraph as a kind of early smart phone, and he monitored the unfolding of our Civil War daily through telegrams.

Lincoln knew then what many of us know now – innovation, invention, and creativity are necessary ingredients for success.

President's Innovation Initiative

President Obama believes our world is full "of unprecedented perils, but also unparalleled potential." Because of this, investment in science, technology, and research is the most important guarantee we can make for our future.

We don't know where our economies will take us. We don't know where the jobs of the 21st century will be. We don't know where the next super storm or pandemic will hit. We *do* know that we need to be prepared.

Focusing on innovation will help us face the challenges of climate change, an aging population, and a changing energy landscape. Innovation will help us find cures for the most devastating diseases, explore new worlds, and provide clean water, plentiful food, and safe housing to the billions of people living here on Earth.

And so the United States is investing in basic research through the President's Strategy for American Innovation. We are promoting U.S. exports. We are actively supporting entrepreneurs. And we are making historic investments in – among other things – clean energy technology, medical research, and advanced vehicle technologies.

Finally, we are promoting investment in science, technology, engineering and math – or STEM – education, because without the scientists and engineers of tomorrow, none of the rest of this will be possible.

Innovation Partnerships

In his State of the Union address, President Obama reiterated his support for research and innovation. He wants us to lead the way in science, technology, and R&D. And I think we will.

But I also think – like the President – that it is important to work closely with our friends and partners. Americans don't have a monopoly on good ideas or talented people.

Scientists and engineers from every country are revolutionizing the world we live in. If we want to solve the world's greatest problems, we must look beyond our borders and increase our cooperation.

We could have no better partner on in this goal than Australia.

Australians – like Americans – are natural innovators, builders, and creators. Like us, you have drive, ambition, and skill. Like us, you view a problem as an opportunity to come up with a solution. Former Prime Minister Bob Hawke called Australia the "clever country," and he was absolutely right.

We want to do even more work with you – sharing ideas, technology, and research. This will make both of our countries stronger and more productive. It will lead to more jobs, a cleaner planet, and a better standard of living – for all of us.

And that is why last year I launched the Ambassador's Innovation Roundtable to bring together some of the brightest people from both of our countries in this spirit of collaboration.

In Melbourne, you are well ahead of the curve when it comes to innovation, research, and problem solving.

Here at Swinburne alone, you are doing amazing work in fields from advanced manufacturing to astrophysics. You are making huge strides in brain research and advanced technologies.

Swinburne's Design Factory links students and researchers to a global network of innovative thinkers, exploring new ways of thinking to address the needs of industry.

By the middle of this year, your Factory of the Future will be fully operational, combining technology, design and cutting edge manufacturing techniques in a innovative hub that allows researchers to work directly with industry partners on testing new designs while ensuring materials can be recycled and reused.

Swinburne and other universities and centers of excellence in Melbourne also are actively developing partnerships with government, business, industry, and other research organizations.

The Centre for Ocean Engineering, Science, and Technology here at Swinburne has teamed up with the U.S. Office of Naval Research to study how waves behave in Arctic seas. As our climate changes, more of the Arctic is navigable. These studies will help make transit through these new waters safer.

U.S. companies are also big fans of Australian innovators.

GE's partnership with CSIRO funds research projects across the country in fields as diverse as aviation, healthcare, and energy.

Boeing's largest research facility outside of the United States is in Australia. The company's partnerships here – with universities, including Swinburne, with the private sector, and with

CSIRO – mean that it has a huge pool of talent to draw on to advance the components and technologies it uses and improve safety even more.

And other U.S. companies from Cisco to IBM to Microsoft to Ford have come to Victoria to invest in intelligent, hard-working Australians who are at the heart of these companies' global R&D efforts.

Yesterday, I had the great privilege to meet with many of the U.S. and Australian business leaders who are innovatively reshaping the economic landscape in Geelong and bring greater prosperity to that part of Victoria.

Across the board, Americans and Australians are working to research liquid metal batteries that will store power at a dramatically reduced cost and could increase the utility of renewable energy sources. We are working to study whales so we can better conserve them, we model the effects of climate change on the oceans and their inhabitants, and we cooperate in a broad range of medical disciplines.

Our cooperation in research and development spans universities and government, think tanks and corporations. These partnerships help our economies expand, develop, and compete in the world market. Creative people and creative companies are teaming up to figure out how to deal with a changing world, changing markets, and a changing climate.

And these partnerships are necessary to spark innovation, which the Grattan Institute has identified as one of the keys to improving productivity in this country.

Advanced Manufacturing

Today, we're going to focus on "advanced manufacturing," which has been one of the keys to the American economic renaissance over the past few years and which all of you know will be a key for Australia's prosperity as well.

And I'm delighted that we're joined today from Washington, DC by U.S. Deputy Assistant Secretary of Commerce for Manufacturing Chandra Brown, who I know will contribute greatly to our discussions.

Right now, manufacturing in the United States is one of our good news stories.
As President Obama noted in his State of the Union address last month, our economy is growing and creating jobs at the fastest pace since 1999. Over the past five years, our businesses have created more than 11 million new jobs. And since 2010, America has put more people back to work than Europe, Japan, and all advanced economies combined.

If we want these trends to continue, we need to do everything we can to support our industry. So the President has announced a series of initiatives designed to boost advanced manufacturing and encourage innovation.

Last month, he announced the latest in a series of manufacturing innovation hubs. This will be a $250 million Manufacturing Innovation Institute for Advanced Composites. At this one, researchers from universities, private business, and R&D facilities will work to develop advanced materials that can be used for everything from wind turbines to cars to airplanes.

This will be the fifth of 15 total planned manufacturing innovation institutes. Other hubs around the country focus on technologies that range from 3D printing to flexible computer chips.

We are also investing in technologies that will help us remain competitive. We are investing in apprenticeships and job training. And we are helping small manufacturers upgrade their supply chains to the latest technologies and to bring new products to the market.

Swinburne is already ahead of the curve in advanced manufacturing. Your partnership in the Australian Advanced Manufacturing Research Centre helps companies improve their capabilities and the materials and technologies they use, providing the Swinburne community with the opportunity to work closely with industry on developing new ideas, products, and solutions to global issues.

And I'm pleased that we are joined today as well by members of the Australian Advanced Manufacturing Council, which was launched in Melbourne in 2013 as a group of companies, including U.S. firms, to further develop advanced manufacturing in Australia.

Here too, we are focusing on the next generation. Today's factory floor jobs are not the same as those of our parents' generations. Our Labor Secretary, Tom Perez, remarked several times during his trip to Melbourne last September that thanks to technology, today's advanced manufacturing jobs more often than not involve well-educated people working with i-pads or programming robots.

So we need all of you young people to engage, too. And I'd be remiss in my duty as U.S. Ambassador if I didn't encourage all of the bright young people here to consider building on your academic credentials or obtaining a higher degree at one of our great universities when you're finished your studies here!

STEM Education

And that brings me to the importance of STEM Education.

We cannot solve the challenges of tomorrow without the next generation of scientists, astronauts, engineers, and programmers.

This is not news to the universities and secondary schools here in Melbourne.

For example, I was very excited on my last trip to Melbourne to meet with the Victoria Space Science Education Center where we talked about links between Australian universities and NASA.

And promoting linkages to organizations like NASA is really important, because we sometimes struggle in both the United States and Australia to get young people interested in STEM fields. It's certainly true, though, that improving STEM education will be crucial if we want to maintain our competitive edge in the future.

In the U.S., we are trying to address this issue by bolstering federal investments in STEM education, building public-private partnerships, and putting 100,000 more STEM teachers into classrooms over the next decade.

More teachers will help us improve science and math education for all students – especially minorities and those from low-income families, whose schools often lack adequate STEM courses. More teachers will help us broaden participation in STEM fields to include more women and girls. We can't remain competitive if we don't get maximum participation across the board.

The private sector is stepping up all over the world to do the same. They recognize that getting kids interested and involved now is important to their success in the future.

Microsoft, Intel, and Google are challenging young people from all over the world to develop new and creative technologies with their global science and engineering fairs. Australian students have discovered new ways to screen for anemia and manage diabetes. They have built portable water purifiers that also generate electricity.

These companies are unlocking the extraordinary creative potential in these students.

In return, young scientists, programmers, and engineers are putting their minds to the problem of making these companies better, more efficient, and more cost effective.

That is, in part, why we began this series of conversations. We want to look at best practices for getting good ideas out of the realm of theory and into development. And then we want to help get those ideas to market.

Conclusions

Of course, not all innovation cooperation is – or needs to be – serious.

Some of our most widespread innovation cooperation takes place in the realm of entertainment.

The LEGO Movie – it's awesome! And should have gotten an Oscar nod! – distributed by Warner Brothers, has made nearly half a billion dollars worldwide. The brains behind it are Sydney studio, Animal Logic.

This studio is a prime example of the talent and creativity that is typical of Australians. They were the first studio in Australia to make a feature length animated film – *Happy Feet*. That year, Animal Logic's singing and dancing penguins beat out *Cars* – made by those underdog animators at Disney – for an Oscar. Not bad for a first try.

Whether we are making people's days a little lighter with entertainment, or improving their health with medical advances, it is important to remember our greatest responsibility. If we want to give our children a better world, we must pursue the research that will make it happen.

I'd argue that doing so is, in fact, part of our duty as citizens.

In ancient Athens, young people took an oath before they could assume the full rights and responsibilities of citizenship. In it, they swore to leave their city not only not less, but greater, more beautiful, and more prosperous than they found it.

We must hold those words in our hearts. They are the core of civic morality still today. If we do, we will be well prepared to meet whatever challenges the future may bring.